

N° 10,423



A.D. 1909

Date of Application, 3rd May, 1909

Complete Specification Left, 6th May, 1909—Accepted, 11th Nov., 1909

PROVISIONAL SPECIFICATION.

Improvements in Washing Machines and the like.

We, ALBERT FREDERICK BUCK, of the Ealing Park Laundry, Darwin Road, Ealing, Laundryman, and WILLIAM RANDALL, of 41, Margravine Road, Hammersmith, Engineer, both in the County of London, do hereby declare the nature of this invention to be as follows:—

5 It relates to machines used for washing and cleansing purposes, principally those used in laundries, where the fabrics or articles of clothing or the like are placed in a closed vessel which is partly filled with liquid, and into which air is, or may be introduced.

10 It is found that the usual method of cleaning articles in laundries by rotating them in a cage through the detergent or washing liquor causes a considerable amount of wear to take place through their rubbing on the sides of the vessel which contains them. In the case of woollen articles it is found that their treatment for cleansing in this type of machine tends to cause them to shrink through undue friction, and also in the case of table linen, lace and muslin curtains, and other similar fabrics, considerable and continual damage arises through the excessive amount of friction that is brought about by the ordinary rotary methods.

15 Our invention has for its object the production of a machine of that type or class wherein or whereby the cleansing of the articles put into it, is effected, by the flowing of the washing liquid through same and without any rubbing actions having to be employed in connection with such articles, hence the roping or twisting of these articles within the washing receptacle is also avoided.

20 The machine is of the type wherein the washing liquid is caused to flow through the articles to be washed by passing through the vessel which contains them, and the formation of said vessel is preferably cylindrical in cross section, and may be of any suitable material with a detachable lid which may be employed or not as the action requires.

25 Within the vessel and near its base is a perforated diaphragm or partition, so that while the washing liquid may flow into the cavity beneath this perforated diaphragm, the clothes or articles are supported above it. Connected with this cavity beneath the perforated plate is a pipe which leads to a circulating pump either of the rotary or other suitable kind, which when in use will raise said liquid from said cavity and deposit it above the articles to be washed within the vessel. The liquid thus caused to flow over the articles to be washed, may be in the form of a spray, and this we produce by having an annular cavity surrounding the vessel with perforations leading into said vessel, or we may have a rose head, or other spraying device at the end of the supply pipe overhanging the washing vessel. When we make use of such supply pipe to overhang the washing vessel we arrange it so that a swivel joint is formed in a suitable part thereof, to enable us to turn it from overhanging said vessel in order to allow the upper end of said vessel to be free for the admission of the attendant's arms for placing therein the articles to be washed as will be understood.

30 35 40 45 Connected with this supply pipe preferably at the part where the swivel joint is formed we mount a plug-valve or other device for stopping the flow of the

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liquid through the pipe when said pipe is turned to one side or from overhanging the vessel, thus providing means which will prevent the flow of the liquid onto the floor provided the attendant shall turn said supply pipe from overhanging the washing vessel.

Instead of said valve we may have connecting parts which when the pipe is swivelled or turned will cause the circulating pump to be arrested so that when the pipe is not in a proper position the liquid is not in circulation.

In connection with the vessel above described we have a detachable lid or a lid that may be hinged to the walls of said vessel in such manner that at any time it may be put into position for closing its upper end and may be moved out of such position as will be understood, while when the said lid is required to be detachable, we may have it with a central opening to take over the rose head in the supply pipe when in position on the vessel, with a projection or flange on said pipe to cover the opening therein, this being formed for the admission of said rose head.

Provision is made for the insertion of a steam supply pipe into the cavity between the diaphragm and the base of the vessel so that steam may be admitted thereto to enter the washing vessel through the perforations in said diaphragm as will be understood.

Or said pipe may be employed for the admission of air under pressure to cause ebullition of the liquids as may be desired, or two sets of pipes may be made use of, one for the admission of air and the other for the admission of steam.

It will be observed that our invention, although described for the purposes of cleansing linen and the like, may be used for any articles, even crockery, which may be loosely placed within the washing vessel and afterwards never disturbed but merely the washing liquid circulated through same.

Dated this First day of May, 1909.

SAMUEL HEY,
Agent.

COMPLETE SPECIFICATION.

Improvements in Washing Machines and the like.

We, ALBERT FREDERICK BUCK, of the Ealing Park Laundry, Darwin Road, Ealing, Laundryman, and WILLIAM RANDALL, of 41, Margravine Road, Hammersmith, Engineer, both in the County of London, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

It relates to machines used for washing and cleansing purposes, principally those used in laundries, where the fabrics or articles of clothing or the like are placed in a closed vessel which is partly filled with liquid, and into which air is, or may be introduced.

It is found that the usual method of cleaning articles in laundries by rotating them in a cage through the detergent or washing liquor causes a considerable amount of wear to take place through their rubbing on the sides of the vessel which contains them. In the case of woollen articles it is found that their treatment for cleansing in this type of machine tends to cause them to shrink through undue friction, and also in the case of table linen, lace and muslin curtains, and other similar fabrics, considerable and continuous damage arises through the excessive amount of friction that is brought about by the ordinary rotary methods.

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Our invention relates to that type of machine wherein the necessary cleansing of the articles put into it is effected without any rubbing actions having to be employed in connection with such articles the cleansing process relied upon being that of having the washing liquid circulated through the vessel or receptacle containing the articles to be washed, such liquid being received in a cavity or space beneath, from which it is pumped or forced back to again flow through the clothes above in manner well known, hence the roping or twisting of these articles within the washing receptacle is also avoided, and our said invention consists in a new and improved construction and arrangement of parts to be used in combination as hereinafter described, whereby said machine may be made to act more efficiently than heretofore and with less liability to derangement by reason of the circulating devices which are to be mechanically operated being entirely outside the washing apparatus and not in combination with any centrifugal or other devices within or forming part of the washing receptacle, the connection between said circulating devices and the washing receptacle according to our invention being solely by tubes or pipes.

In the accompanying sheets of drawings which are illustrative of our said invention:—

Figure 1 is a part sectional side elevation of a machine made in accordance with our invention.

Figure 2 is a similar view to Figure 1 but shows a modification of such machine.

The machine is of the type wherein the washing liquid is caused to flow through the articles to be washed by passing through a vessel *a* which contains them, and the formation of said vessel *a* is preferably cylindrical in cross section, and may be of any suitable material with a detachable lid *b* which may be employed or not as occasion may necessitate.

Within the vessel *a* and near its base is a perforated diaphragm or partition *c* so that while the washing liquid may flow into the cavity *d* beneath this perforated diaphragm *c* the clothes or articles are supported above it. Connected with this cavity *d* beneath the perforated plate *c* is a pipe *f* which leads to a circulating pump *g* either of the rotary kind shown, or other suitable type of pump may be used which when in use will raise said liquid from said cavity *d* and force same through the pipe *g*¹ so as to deliver such liquid above the articles to be washed within the vessel *a*. The liquid thus caused to flow over the articles to be washed may be in the form of a spray, and this we produce by having an annular cavity *h* (see Figure 1) surrounding the vessel *a* with perforations *2* leading into said vessel *a*, or we may have a rose head *k* (as shown by Figure 2) or other spraying device at the end of the supply pipe *g*¹ overhanging the washing vessel. When we make use of such supply pipe *g*¹ to overhang the washing vessel *a* we arrange it so that a swivel joint *m* is formed in a suitable part thereof to enable us to turn it from overhanging said vessel *a* in order to allow the upper end of said vessel to be free for the admission of the attendant's arm to remove or arrange the articles therein as the washing proceeds as will be understood.

Connected with this supply pipe *g*¹ preferably at the part where the swivel joint *m* is formed we mount a plug-valve *m*¹ or other device for stopping the flow of the liquid through the pipe *g*¹ when said pipe is turned to one side or from overhanging the vessel *a* thus providing means which will prevent the flow of the liquid on to the floor, should the attendant inadvertently turn said supply pipe from overhanging the washing vessel *a*.

Instead of said valve *m*¹ we may have connecting parts which when the pipe *g*¹ is swivelled or turned aside will cause the motion of the circulating pump *g* to be arrested so that when said pipe *g*¹ is not in its proper position the liquid is not in circulation.

In connection with the vessel *a* above described we have a detachable lid *b*

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(as shown by Figure 1) or a lid that may be hinged to the walls of said vessel *a* in such manner that at any time it may be put into position for closing said upper end and may be moved out of such position as will be understood, while when the said lid *b* is required to be detachable in connection with the arrangement of parts shown by Figure 2, we may have it with a central opening to take over the rose-head *k* in the supply pipe *g*¹ when in position on the vessel, with a projection or flange on said pipe to cover the opening therein, this being formed for the admission of said rose head. Or said lid *b* may be mounted upon the pipe *g*¹ (as shown by Figure 2) and so that it may be moved as and when said pipe *g*¹ is moved, in which case we form an inclined part on the swivelling joint *m* to cause said pipe *g*¹ to rise as it is being turned aside, thus at the same time it will lift said lid out from and clear of the upper edge of the vessel *a*.

Provision is made for the insertion of a steam supply pipe *n* into the cavity *d* so that steam may be admitted thereto to enter the washing vessel through the perforations in said plate *c* as will be understood.

Or said pipe may be employed for the admission of air under pressure to cause ebullition of the liquid as may be desired, or two sets of pipes may be made use of, one for the admission of air and the other for the admission of steam. Or again said steam pipe may be in the form of a coil or coils of pipes which merely enter the cavity *d* and by the steam passing through them raise the temperature of the circulating water without said steam actually entering or mixing with such water.

Water is supplied from any of the usual sources to the vessel *a*, through the feed pipe *p*.

It will be observed that our invention, although described for the purposes of cleansing linen and the like, may be used for any articles, even crockery, which may be loosely placed within the washing vessel *a* and afterwards not disturbed, but merely the washing liquid circulated against or through same.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—

1. Apparatus for use in the washing or cleansing of clothes or other articles, comprising a main vessel such as *a* for the reception of said articles, said vessel having a perforated base such as *c* so that a cavity such as *d* is formed beneath same, connecting pipes leading from the cavity beneath the vessel *a* to the circulating pump and from said circulating pump to an annular cavity surrounding the vessel *a* so that water may be thereby circulated and caused to flow in the form of a spray down upon the articles within the vessel *a*, said several parts being constructed and arranged to operate in combination, substantially as herein specified.

2. Apparatus of the character claimed by Claim 1 having a rose-head such as *k*, together with its supply pipe such as *g*¹ arranged in combination with other parts substantially as specified.

3. Apparatus of the character claimed by Claim 2, the same having a detachable lid *b* mounted upon its supply pipe as *g*¹ said supply pipe being swivelled by a stop valve which is arranged to be operated by said supply pipe, substantially as set forth.

4. Apparatus of the character claimed by Claim 2, the same being characterised by devices which when the lid is removed will arrest the circulation of the liquid through such apparatus, substantially as set forth.

Dated this Fifth day of May, 1909.

SAMUEL HEY,
Agent.

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(2 SHEETS)

SHEET 1

SHEET 2

[This Drawing is a reproduction of the Original, on uncoloured paper.]

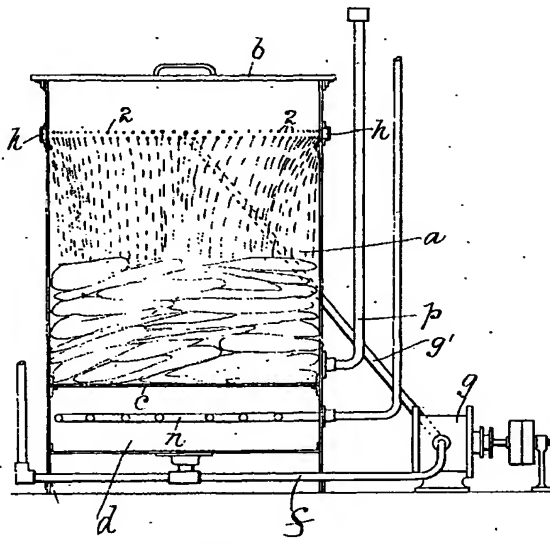


Fig. 1

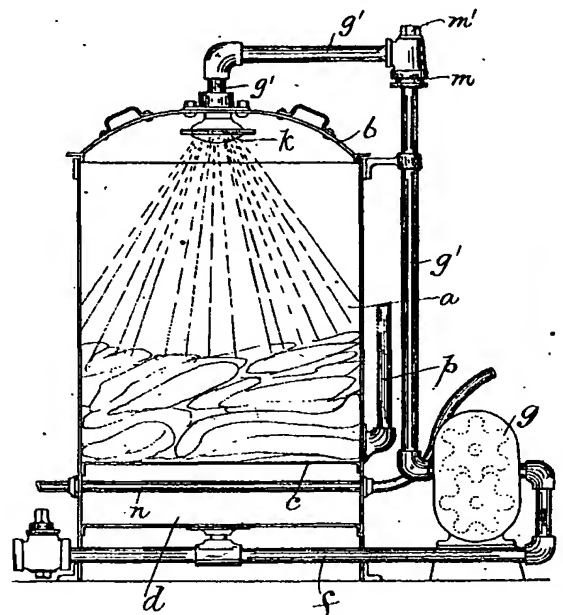


Fig. 2

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SHEET 1.

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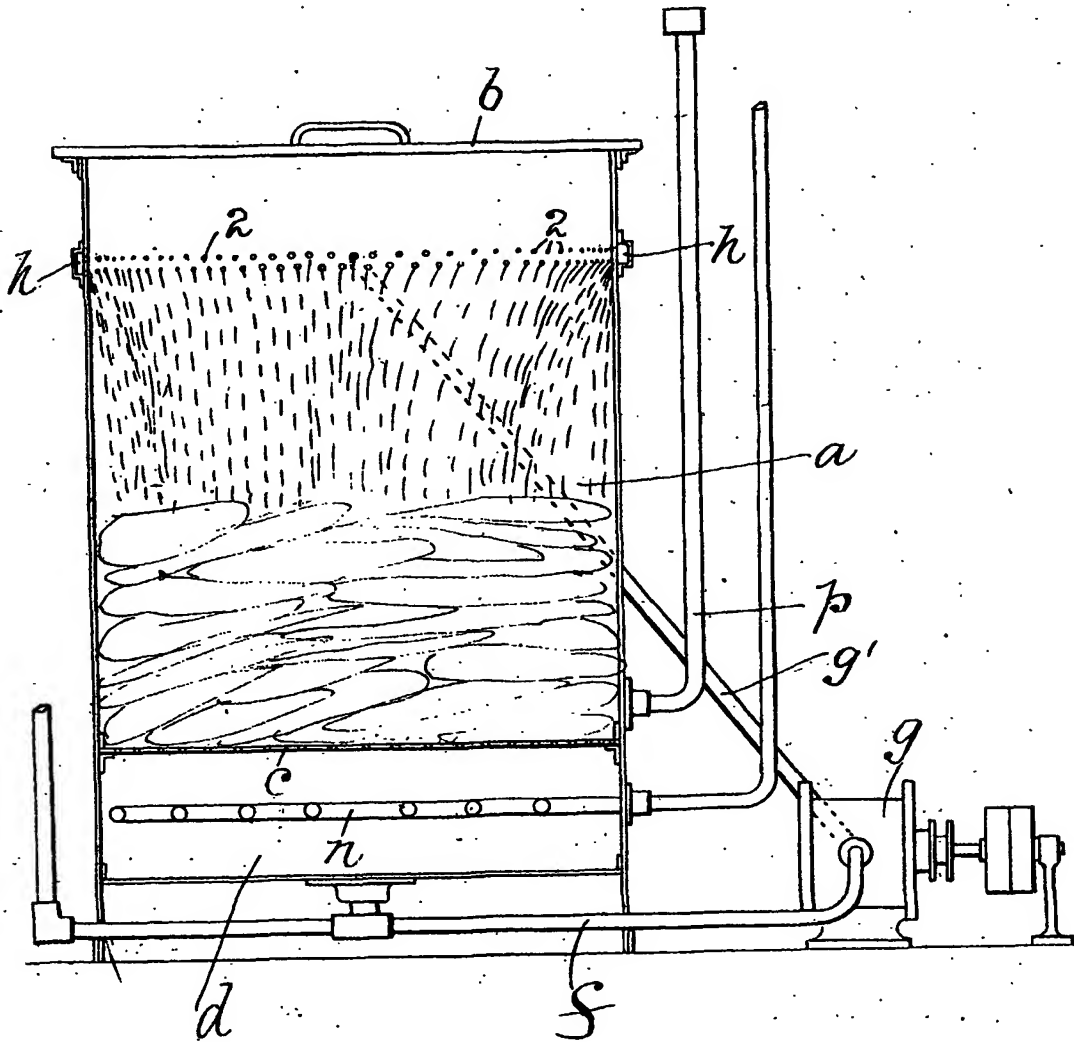


Fig. 1

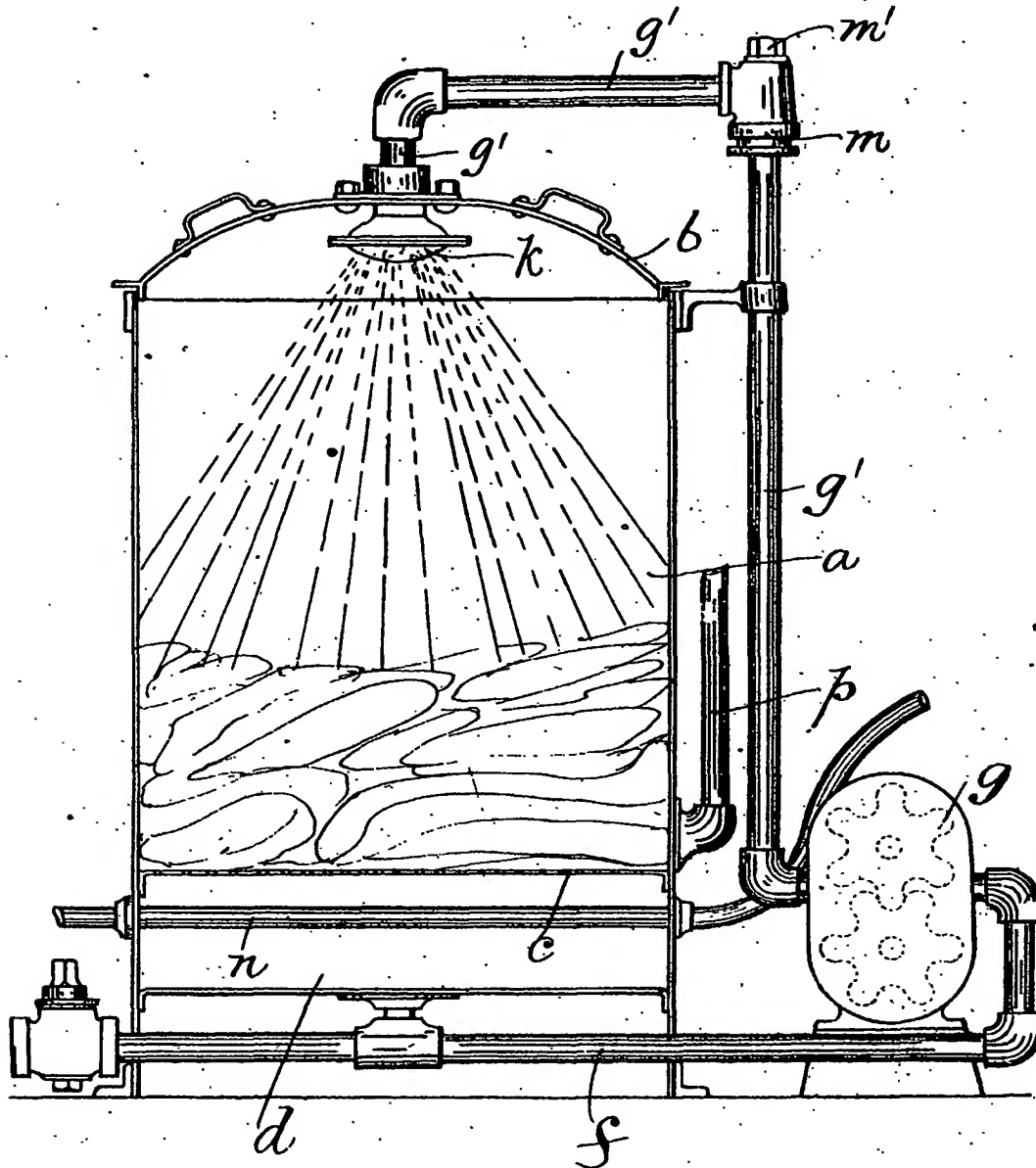


Fig. 2

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